DOCUMENT RESUME

ED 201 878 CE 029 011

AUTHOR	Pershing, James A.; Schwandt, Thomas A.
TITLE	A Schema for Recruiting and Selecting Secondary Vocational Education Students. Project Monograph.
INSTITUTION	Indiana Univ., Bloomington. Dept. of Vocational Education.
SPONS AGENCY	Indiana State Board of Vocational and Technical Education, Indianapolis.
PUB DATE	80
NOTE	75p.; For a related document see CE 029 012.
AVAILABLE FROM	Vocational Education Services, Indiana University, 840 State Road 46 Bypass, Room 111, Bloomington, IN 47405 ($2.00 prepaid).
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Admission Criteria; *Diagnostic Tests; Educational Planning; *Models; Postsecondary Education; Program Development; School Districts; *Screening Tests; Secondary Education; State Programs; Student Evaluation; *Student Recruitment; Test Selection; Vocational Aptitude; *Vocational Education
IDENTIFIERS	Vocational Evaluation

ABSTRACT

Designed as a guide for state- and local-level vocational education program administrators, this monograph presents a schema for recruiting and selecting students for secondary vocational education programs. It also describes noteworthy recruitment and selection strategies and techniques suitable for adaptation in local schools. Section 1 is an introduction. In the second section the five phases of the largely theoretical schema are described. These processes are planning, recruitment, selection, instruction, and evaluation (post-school student activities). Section 3 examines recruitment and selection strategies and techniques and extends the discussion of the rationale for these two activities begun in the previous section. Annotations of three handbooks/manuals directly addressing recruitment of students for vocational education programs are provided, and some documented recruitment strategies and methods are highlighted. Critical issues in the design of a selection strategy are discussed, including roles of vocational appraisal and choosing appropriate selection instruments and method. A listing is appended of test instruments accompanied by author(s) and/or publisher and summary of content/usability. Six categories of instruments are provided: Achievement Batteries, Aptitude Measures, Measures of Career Development/Planning, Interest Inventories, Personality Measures, and Miscellaneous. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED201878

Project Monograph

A SCHEMA FOR RECRUITING AND SELECTING SECONDARY VOCATIONAL EDUCATION STUDENTS

by

James A. Pershing
and
Thomas A. Schwandt

Department of Vocational Education
School of Education
Indiana University

CE 029 011

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Summer 1980

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

J. Brooks

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

PROJECT INFORMATION

Project Title: Vocational Education Student Recruitment and Selection Practices in Indiana

Under Contract With: State of Indiana
State Board of Vocational and Technical Education (SBVTE)
401 Illinois Building
17 West Market Street
Indianapolis, Indiana 46204

Contract: SBVTE project number: 71-78-III-4

Contractor: Indiana University
Bloomington, Indiana

Project Staff:

Principal Investigator and Project Director

Dr. James A. Pershing
Department of Vocational Education
School of Education
Indiana University/Bloomington

Research Associate

Thomas A. Schwandt
Department of Vocational Education
School of Education
Indiana University/Bloomington

Staff

Efstathios Demetropoulos, Research Assistant

Susan Schneider, Administrative Secretary and Typist

This publication was prepared under government sponsorship, and its authors were encouraged to express freely their judgments in professional and technical matters. Points of view in the report do not necessarily represent policies of the funding agency.

© SBVTE, 1981; all rights reserved.

ABSTRACT

Purpose. This monograph was developed as part of a research project designed to discover and document vocational education student recruitment and selection practices in Indiana. It has been prepared to assist secondary vocational school administrators, counselors, and other professional staff in the development and/or improvement of the activities and processes of recruiting and selecting students for secondary-level vocational education programs.

Procedures. The monograph was produced as a result of both exploratory and descriptive research conducted in Indiana and other states as described in the final report of this project. The schema presented is largely theoretical and should be viewed as a heuristic device. It is an attempt to delineate the key elements necessary to the effective operation of a vocational education student recruitment and selection system.

Products. The monograph is composed of two major sections. The first section presents a five-phase schema for recruitment and selection of secondary-level vocational education students. The second section describes several techniques and methods of recruitment and selection. An additional final report document was prepared to convey information regarding the results of the surveys dealing with vocational education recruitment and selection practices.

ACKNOWLEDGEMENTS

Many individuals contributed their time and talents toward the completion of this project. The authors sincerely appreciate their generous assistance. Special recognition is due Mr. Edgar Hornback, State Coordinator for Supportive Services and Program Improvement, Indiana State Board of Vocational and Technical Education and Ms. Esteline Bradley, Vocational Guidance Consultant, Division of Vocational Education, Indiana Department of Public Instruction for their encouragement and assistance in the completion of this project.

In addition, the authors wish to thank Mr. Efstathios Demetropoulos for his assistance in reviewing related literature and Ms. Susan Schneider for clerical assistance in the project and in the preparation of this monograph.

James A. Pershing
and
Thomas A. Schwandt

TABLE OF CONTENTS

	Page
SECTION I: Introduction	1
SECTION II: A Schema for Recruitment and Selection	5
Phase I--Planning	5
Phase II--Recruitment	9
Phase III--Selection	16
Phase IV--Instruction	21
Phase V--Evaluation	23
Epilogue	26
Conclusions	28
SECTION III: Recruitment and Selection Practices	31
Recruitment	31
Handbooks and Manuals	34
Strategies and Techniques	35
Selection	38
Three Roles for Vocational Appraisal	38
Choosing Appropriate Selection Instruments	40
Choosing a Selection Method	43
SECTION IV: Summary	47
SECTION V: Reference Notes	49
SECTION VI: Appendices	53
Appendix A: Vocational Education Services	55
Appendix B: Test Instruments	57

LIST OF FIGURES

Page

Figure 1: Planning Phase of the Schema 6

Figure 2: Recruitment Phase of the Schema 9

Figure 3: Selection Phase of the Schema 17

Figure 4: Instruction Phase of the Schema 21

Figure 5: Evaluation Phase of the Schema 24

Figure 6: A Schema for Recruitment and Selection 27

SECTION I

Introduction

The monograph presents a schema for recruiting and selecting students for secondary vocational education programs. It also describes noteworthy recruitment and selection strategies and techniques suitable for adaptation in local schools. The monograph was developed as part of a research and development project that was funded by the Indiana State Board of Vocational and Technical Education (Project No. 71-78-III-4). The project was initiated as a response to an expressed concern on the part of local vocational education program administrators and counselors regarding the lack of information on recruiting and selecting students for vocational education programs.

The monograph is designed to serve as a guide for state and local level vocational education program administrators as well as other professional personnel as they seek means to develop and/or improve strategies and techniques for recruiting and selecting students for secondary vocational education programs. The objectives of the monograph are:

1. To increase awareness of the role of recruitment and selection in a comprehensive program of vocational or career guidance.

2. To provide a framework and rationale for articulating recruitment and selection with other components of the vocational education program.

3. To assist professional staff in identifying problems associated with the design, development, and operation of a recruitment and selection system.

4. To provide information on potentially useful recruitment and selection strategies and techniques.

Information gathered from several sources formed the basis for the development of the monograph. A review of the literature was undertaken on a number of topics. In addition to searching for previous work specifically related to recruitment and selection models and practices, inquiries were conducted into theoretical and empirical work in career development theory, career guidance systems, and the impact of the labor market on vocational education. An experience survey of selected vocational counselors and administrators in Indiana's secondary schools was undertaken through semi-structured interviews to establish parameters for the schema, define terms used in practice, and generate questions for a mail survey instrument. This experience survey included collecting and analyzing relevant school documents on admissions and selection policies and gathering recruitment literature. A survey and analysis of exemplary vocational education student recruitment and selection practices in other states, as well as Indiana, was conducted to obtain a more precise picture of the state of the art and to generate ideas for the design and development of the schema. Finally, the results of a mail survey that was designed to ascertain prevailing practices and opinions concerning vocational education student recruitment and selection in Indiana's area vocational schools were analyzed and used as input for the development of the schema.

The monograph consists of two major parts. In the first section a schema for recruiting and selecting students for secondary vocational education programs is presented. In this section, a rationale for the proposed practices is developed and a framework for articulating the practices within the vocational education guidance and instructional system is offered. The second section describes recruitment and selection strategies and techniques which may be adapted to local school conditions.

SECTION II

A Schema for Recruitment and Selection

A schema outlining the processes of recruitment and selection of secondary level vocational education students is presented in this section. Because it is assumed that these processes are subsystems within the larger vocational education system, an attempt is made to articulate recruitment and selection with other major subsystems. Accordingly, the schema unfolds through the following five phases: Phase I-Planning, Phase II-Recruitment, Phase III-Selection, Phase IV-Instruction, and Phase V-Evaluation. The description of each phase is accompanied by a list of working assumptions that are built into modeling of that phase.

The schema presented is largely theoretical. It should be viewed as a heuristic device. It is an attempt to delineate the key elements necessary to establishing a vocational education student recruitment and selection system. In developing the schema, efforts have been made towards operational specificity so as to permit future manipulations and trials.

Phase I—Planning

Planning is the activity that yields a course of action. It is deciding in advance what to do, how to do it, when to do it, and who

is to do it. Planning bridges the gap from where we are to where we want to go.[1]

As displayed in Figure 1, the complex process of vocational education planning can be depicted as three distinct, yet interrelated, activities. The first activity, strategic planning and policy determination, is the process of developing plans and guidelines that deal with those broad matters which affect the direction of the vocational education system.[2] This process leads to a mission statement and broadly stated goals for the vocational education system. These formal declarations set the boundaries within which decisions are to be made and provide the vocational education organization with direction, purpose, and intent.

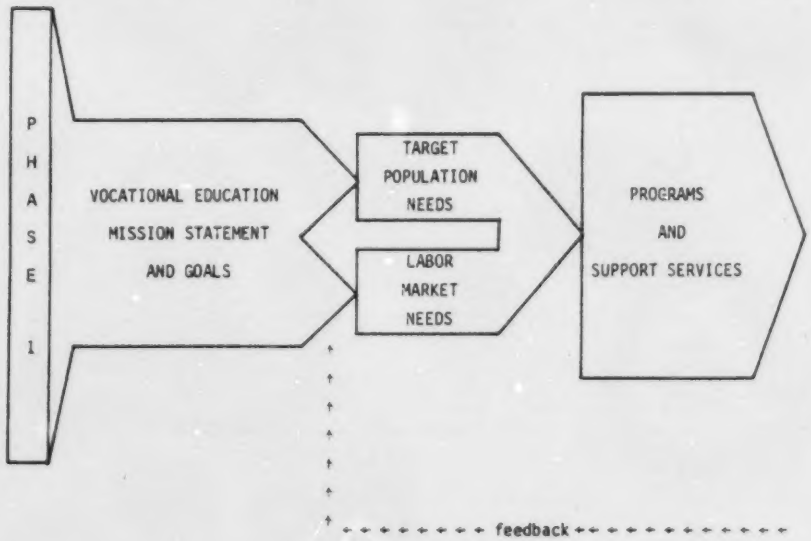

Figure 1: Planning Phase of the Schema

Historical precedents as well as numerous legislative acts and accompanying regulations have resulted in a set of specific standards for planning vocational education programs. These lead to the second activity of the planning process. Federal and state guidelines require that vocational education programs be planned to meet the vocational needs of the local population being served and the employment needs of the local labor market.[3] Such a needs study should result in an assessment of not only those groups that can benefit from vocational education services, but also the types of education and training that are best suited to meet their needs. This information can then be interfaced with current and potential employment opportunities in the local labor market to ensure that vocational education programs are realistic in terms of their meeting employment needs and employment opportunities.

With mission statement, goals, and needs assessment in hand, the vocational education planner proceeds with administrative or management-control planning, the third activity in the planning process. Administrative planning involves the development of operational plans that guide the vocational education system in the use of resources so that the goals and needs of the system are accomplished.[4] By utilizing a variety of information sources and management science techniques, the vocational education planner determines that mix of programs and support services that maximizes the achievement of goals for the vocational education system given certain constraints. If the planning process has been systematic and well organized, a logical progression of decisions

and information should be attributable to each vocational education program offering and support service.

By analyzing the planning process and the information it yields, those charged with implementing programs and support services can ascertain the direction, priorities, parameters, and effectiveness criteria that in essence define their responsibilities. In this context, it becomes critical for those charged with recruiting and selecting vocational education students to familiarize themselves with the intricacies of the vocational education planning process.

As marketers of and gatekeepers for vocational education programs, individuals responsible for recruiting and selecting students have two important roles. First, they are in the business of explaining the purposes and services of vocational education. Second, they are responsible for identifying the specific vocational needs of prospective students. Like all organizational entities, vocational education seeks legitimacy through its output and methods of operation. Given the organizational impact of recruitment and selection activities, it becomes critical that they be compatible with, as well as a logical extension of, the organization's expressed mission, goals, programs, and support services.

Assumptions for Phase I-Planning

1. The vocational education planning process is systematic and organized, and the activities and outcomes are rational and well documented.

2. Accurate data regarding the employment related needs of the population and the labor market are available and the expertise to accurately transform these data to usable information exists.

3. A substantial degree of agreement exists among policy makers, administrators, and professional personnel regarding the goals and objectives of vocational education.

4. If, as most always is the case, the need for vocational education exceeds available resources, a substantial degree of agreement then exists among policy makers, administrators, and professional personnel regarding the prioritizing and resource allocations for programs and support services.

Phase II—Recruitment

The recruiting of students for vocational education programs, as presented in Figure 2 of the schema, consists of two related sub-phases.

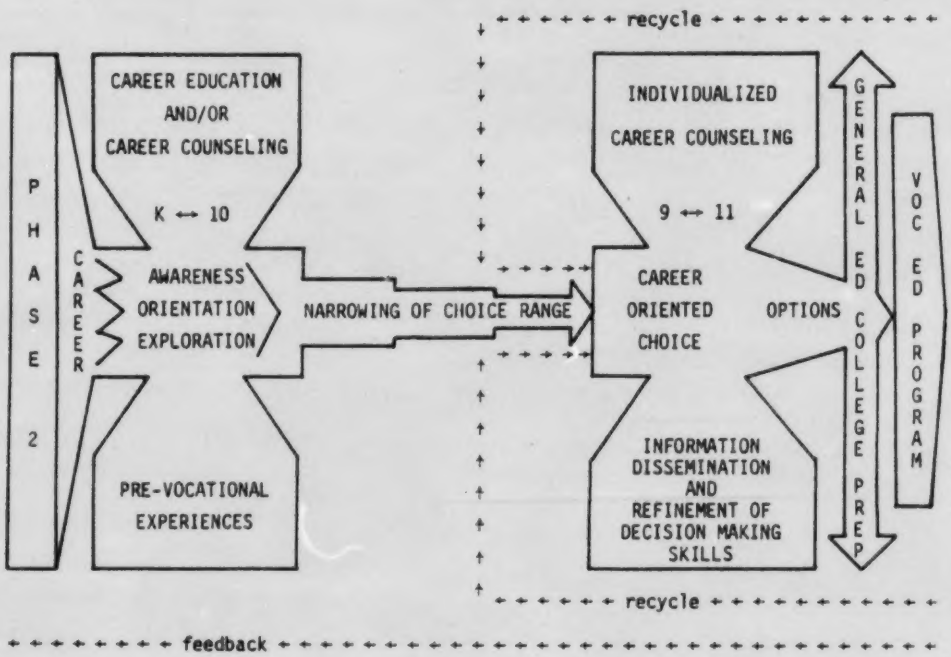

Figure 2: Recruitment Phase of the Schema

Both sub-phases are predicated on the premise that the educational system should assist students in the process of making career-oriented choices. Acceptance of this premise implies that vocational education student recruitment is viewed as a critical component in a school's guidance system and not as a mechanism to attract students to vacant slots in vocational education programs. In short, recruitment in this context becomes a significant factor in the developmental process of choosing and learning an occupation. If choosing and learning an occupation are inseparable parts of the same developmental process, then recruitment activities must be designed to facilitate informed and intelligent vocational education choices. This point cannot be overemphasized, for as Leighbody states:

> For a young person to enter into any specialized program of training for a particular occupation with inadequate knowledge of its nature or of its suitability for him is a waste of human resources and is educationally and economically unsound.[5]

Broadly conceived, the picture of vocational education student recruitment that emerges in the two steps of the recruitment phase of the schema is that of career counseling, or even more broadly, career education for human development. Under the developmental umbrella, both treatment and stimulus approaches to career counseling* co-exist.[6]

The more traditional treatment or remedial tasks of career counseling are designed to offer the student assistance at critical

---

*For present purposes, the terms career counseling and vocational guidance are being used interchangeably.

career-oriented choice points (e.g., the choice among college preparatory, vocational education, or general education options at grade 9 or 10) or at other times when the diagnosis of a problem or difficulty is made. Two examples of such diagnoses include inability to make a decision and uncertainty about a decision already made. Typical activities for this approach include interviewing, aptitude and interest measurement, and the assignment to investigate reference materials about occupations and educational programs.

The stimulus approach to career counseling is more proactive. While, like the treatment approach, it holds that certain points in the student's developmental continuum are crucial in the decision-making process, it also maintains that the counseling process should continually enhance personal development. Accordingly, typical procedures of this approach include those already mentioned as well as interviews at specified intervals about the choice of school subjects or specific training path decisions. Other techniques include introduction to specific training programs and the use of career days, field trips, and printed or audio-visual materials dealing with occupational and educational opportunities.[7] It should be noted that the use of tests with the stimulus approach is not limited to the tasks of description, prediction, and problem-solving that is associated with the use of tests in a treatment mode. From the point of view of career guidance as a stimulus, testing is seen as a means to enhance, broaden, and provide focus to the career exploration process. Testing is used to explore one's self in relation to career and to provide "what if" information with respect to various career

choice options.[8] Herr and Cramer neatly summarize the stimulus approach as follows:

> As a stimulus variable, vocational guidance does not respond to already existing problems. Rather, it aids in acquiring knowledge, attitudes, and skills in which individuals can develop the vocational behaviors deemed necessary to cope with decision points, acquire vocational identity, or develop vocational maturity.[9]

This view of career counseling or guidance for human development suggests that such activities be sequential, planned, and integrated in a developmental support system. JoAnn Harris-Bowlsbey has synthesized elements of both Super's and Tiedeman's career development theories to draft the following list of components of such a system:

- activities for the formulation and clarification of self-concept;
- activities which promote broad exploration of educational and occupational alternatives;
- activities which assist individuals to relate self-information to occupational and educational information;
- deliberate teaching of decision-making and career-planning skills;
- opportunities for reality testing; and
- assistance with implementation of choices.[10]

Consideration of career counseling as a stimulus variable naturally feeds into the concept of career education. In a career education framework, the process of recruiting students for vocational education programs is logically extended backwards from traditional career-oriented choice points to earlier phases of the educational process. Information regarding the viability of vocational education

as a legitimate educational option can be introduced in various ways throughout the elementary and middle school years. Vocational education can thus be viewed as an option to be learned about in the awareness, orientation, and exploration phases of career education. Pre-vocational experiences in a variety of areas can be used as educational activities that assist students as they mature vocationally and begin to narrow the range of career-oriented choices they will ultimately face.

In addition to the rationale for vocational education student recruitment that has already been sketched, two other considerations are relevant. First, from the point of view of organizational behavior, vocational education organizations, like all other organizations, seek both consumer satisfaction and institutional legitimacy. Consumer satisfaction with the organization's product in the case of vocational education takes the form of student, parent, and employer satisfaction--a satisfaction with the vocational education the student receives and employer satisfaction with the student emerging from the vocational education program. The identification and satisfaction of consumer need, known as the marketing concept, has long been recognized as a philosophical base for planning and operating an organization's activities.[11] Only recently, in view of declining enrollments and rising costs, has the notion of marketing education begun to capture the attention of educators.[12] Recruitment is the business of marketing education, in this case vocational education. It is a service in support of the major goals of the organization. In a vocational education context, it is carried out by (a) explaining the purposes and services of the educational program,

(b) identifying the vocational-related needs of prospective students (consumers), and (c) honestly and effectively communicating (a) to (b) and vice-versa.

Demands for satisfaction on the part of parents, students, and employers represent but one facet of the many environmental forces that an educational institution must contend with. Within the educational marketing environment, several subsystems impinge on the institution. For example, the services offered by a vocational education institution are shaped to some extent by local labor market or economic forces. The demand for skilled labor and the acceptability in the labor market of the program graduate partially dictates the type of training that must be offered. Similarly, the socio-cultural and technological forces expressed as consumer needs impact the institution's choice of programs. Political and governmental influences such as accountability requirements or legislative regulations as well as conditions imposed by resource suppliers (e.g., curriculum materials, equipment innovations) also force the organization to adapt its services and methods of operation. This scenario of subsystems' impact on organizational performance reveals that in addition to heeding the marketing concept, an organization must seek legitimacy. Legitimacy for any social organization is conferred and confirmed by other organizations or systems within the social system that demands its output.[13] The fundamental task of an organization is to establish the legitimacy of its output (in this case, the vocational program graduate) as well as its methods of operation. As a marketing function which serves as an interface between the educational institution

and its environment, recruitment is a critical means for facilitating the establishment of institutional legitimacy.

In sum, from the point of view of organizational survival, recruitment is grounded in both the marketing concept and the bid for legitimacy. Evidence of consumer satisfaction (the marketing concept) with vocational education services is sought by the educational institution. Hence, recruitment activities are aimed at increasing enrollment, retention, and ultimately student satisfaction with the training program. Second, the organization through adaptation to shifting environmental forces and constraints seeks to establish the legitimacy of its output and of its methods of operation. Hence, recruitment activities based on evidence of program completion rates, graduates' post-training vocational success, and suitability of training to market demand enhance the establishment of the vocational education institution's legitimacy.

Assumptions for Phase II-Recruitment

1. Vocational education student recruitment is viewed as a component of the career development process and as such is part of an educational program through which students are provided with the appropriate knowledge, attitudes, and skills necessary to make informed career-oriented choices.

2. Accurate information regarding such factors as vocational education program areas, occupational requirements, program placement rates, and employment opportunities are available and accessible to counselors and students in discernible formats for a variety of ages and comprehension levels.

3. Instruments, inventories, and counseling strategies are available and utilized to assist students in obtaining an accurate self-understanding of their career-oriented aptitudes, abilities, and interests.

4. Opportunities are provided for students to learn, practice, and refine decision-making skills in a career context.

5. Educational administrators, planners, and professional personnel create and maintain an environment in which career-oriented activities are well-articulated between the elementary and secondary levels and vocational education is viewed as a viable and legitimate career-oriented option for secondary age youth.

6. Some students are ready to narrow their career-oriented choice range to at least a cluster of occupations by grades 9 to 11 and such choices are not treated as final or irreversible from an educational perspective.

Phase III—Selection

The vocational education student selection process, as presented in Figure 3 of the schema, is based upon the assumption that the legitimate selection of students for vocational education programs should be based upon an assurance that the career-oriented choices of students are mature choices. According to Crites, a mature career-oriented choice must meet several criteria. Among these are that the choice:

- is based upon correct information and education about occupations and educational opportunities;
- fits in the overall goal aspirations of the student;
- relates to expressed or inventoried interests;
- is freely made;
- is systematic and not chance behavior;

- is based on knowledge of self as indicated by the student's personality, intelligence, aptitude, and maturity.
- is the result of careful short-and long-range planning; and
- is future oriented.[14]

Super describes a mature career-oriented choice as being goal directed, a result of the vocational development process, and flexible and yet stable at the same time.[15]

In seeking assurances regarding the maturity of a career-oriented choice, the individual responsible for vocational education student selection can employ a number of strategies. Such strategies

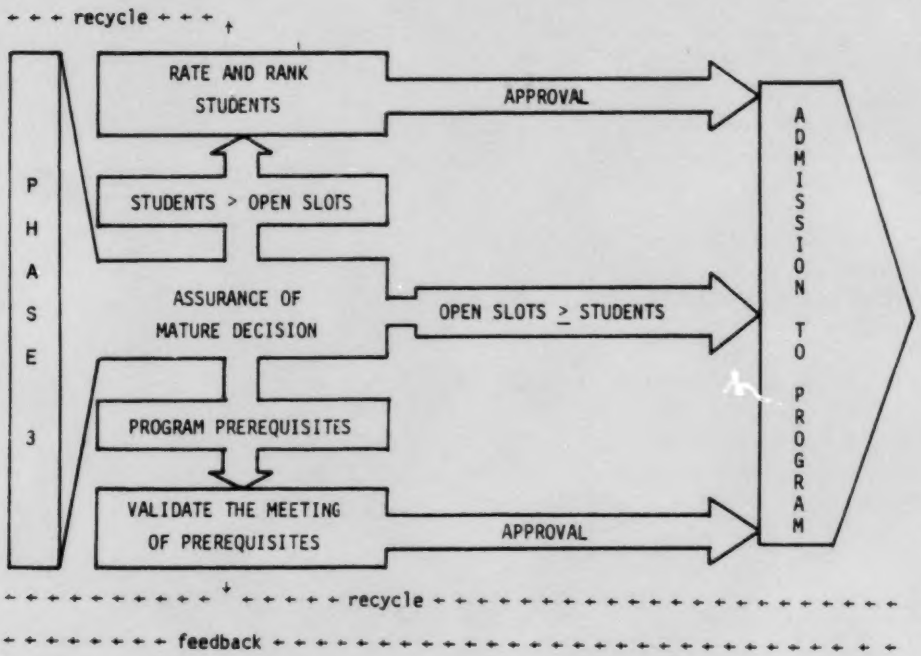

Figure 3: Selection Phase of the Schema

can be clinical in nature, or statistical, or a combination of both.[16] The strategy employed will be greatly influenced by the nature of the recruitment process as previously discussed. Gribbons and Lohnes have identified eight variables which correlate highly with readiness for career-oriented planning. They are:

- awareness of relevant factors, including one's abilities, interests, and values and their relation to curriculum and occupational choice;
- awareness of relevant factors relating to the requirements and description of an occupation;
- ability to verbalize appropriately the relation of personal strengths and weaknesses to educational and vocational choices;
- comparison of the student's estimate of his/her scholastic ability with actual attainments on scholastic aptitude tests;
- quality of evidence cited by the student in defense of his/her appraisal of his own abilities;
- awareness of interests and their relation to occupational choice;
- awareness of values and their relation to occupational choice; and
- extent of the student's willingness to take personal responsibility for his/her choices.[17]

Such criteria or combinations of criteria can be used to assess the maturity of a student's career-oriented choice and can thus be viewed as initial selection criteria.

Once the maturity of a career-oriented choice is assured, three avenues leading to admission to vocational programs are possible. The first avenue presents no apparent problem, for here the number of open slots for a particular vocational education program equals or exceeds

student demand for that program. In such instances, all interested students are admitted to the program.

The second avenue involves those vocational education programs that may have admission standards and/or program prerequisites. The consideration of such requirements should be a part of the student's career-oriented choice process. Nevertheless, some form of validating the attainment of such requirements may be necessary. This could vary from actual testing, to checking school records, or to asking for evaluative information from previous instructors. Examples of such admission standards might include a specific reading achievement level, or a course in advanced mathematics or science, or a specific manual dexterity level.

The third avenue is the possibility that the number of students interested in a particular vocational education program may exceed the number of available training slots. In such cases, two options are available. The first option is to assign slots on a first come and first serve basis or by means of a lottery. In either case, it is assumed that judgments regarding the ranking of students on some admission standard is either not feasible or not desirable. The second option is based upon the idea that some standard(s) can be agreed upon and defended as viable selection criteria for a vocational education program. Such standards can be based upon a variety of factors and can be used singularly or in combinations. Examples include scores on aptitude tests, performance in previous coursework related to the program, past attendance records, past behavior records, age, economic status, social or cultural status, and

grade level. Some method is usually required for rating and ranking all interested students. If multiple criteria are employed, a weighting system for the criteria may be used. The rates or values assigned to criteria may be derived from professional judgments, scores on tests, or other quantitative indicators. They must be standardized in some fashion if a composite score or rank is to be derived. Such systems can be simple and straight forward or complex and difficult to calculate and interpret. Regardless of the system used, the critical criteria that should be met involve fairness as well as the degree to which the selection system accurately discriminates among potential student performance and/or student need criteria. It should be recognized that it is not feasible from a practical perspective to ascertain if those students who are not admitted to a program would have succeeded and if those who are admitted and do not succeed do not do so because of faculty selection criteria.

Assumptions for Phase III-Selection

1. Those administrators, counselors, and instructors that are charged with establishing and applying selection criteria are fair individuals that have carefully thought through the selection standards and processes that are employed.

2. The prerequisites and/or standards that are used to rate and rank students are based upon criteria that are discriminatory in nature and defensible as vocational education selection criteria.

3. The vocational counselor, if so called upon, can effectively deal with the dual problem of being perceived by students as the "gatekeeper" in terms of student access to vocational programs and individual guidance counselor with regards to helping students choose among options.

4. Prior to the vocational education selection process, students are given opportunities to learn about occupations, themselves, and educational opportunities from a career perspective.

5. Tests, inventories, and batteries of objective information that are used for selection purposes are used in a responsible and professional manner.[18]

6. The "gatekeeper(s)" responsible for selecting vocational education students are not forced into the position of meeting quotas for particular programs or courses.

Phase IV—Instruction

Once students are admitted to a vocational education program and coursework begins, the final phase (see Figure 4) of the selection

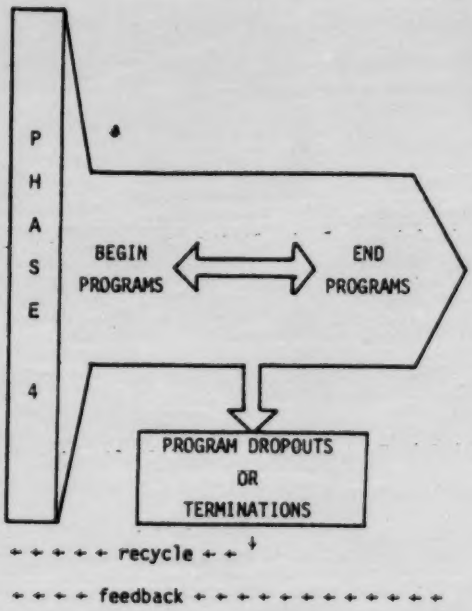

Figure 4: Instruction Phase of the Schema

process unfolds. Typically, during the first few weeks of instruction, a critical evaluation of the career-oriented choice is made by the student. During this time, program requirements are clarified and the personalities and expectations of the instructor and fellow classmates become clear. Problems relating to scheduling conflicts and work load can also surface. In situations where negative factors arise, the student may feel that his choice was at best uncertain and at worse unwise. At this decision point, career counseling is important. In some instances, problems can be resolved via individual counseling. In other instances, the student may choose to drop from the program and be recycled to choose another program option. It is critical for the counselor to try to ascertain the nature and extent of the problem. Was the career development, recruitment, or selection process faulty or was the problem more student-centered? In any event, the information should be treated as potential feedback to the planning, recruitment, and selection phases of the schema.

Throughout the duration of the instructional process, another possible event that can trigger the recycling of a student to the career choice option is that of termination. Factors such as inacceptable performance, poor attendance, and behavior-related problems can result in an instructor terminating a student from a program. This form of imposed career-oriented selection also needs to be analyzed to ascertain the nature of the problem. Were there deficiencies in the planning, recruiting, and selection phase of the schema or were the events primarily student-centered? Such information becomes feedback to planners, policy makers, and program personnel.

It is critical in dealing with program dropouts and terminators to make professional judgments regarding whether problems that occur require career-oriented or behavior-oriented counseling. If, in a substantial number of cases, the problems require career-oriented counseling, then the problems may not lie with students, but with the system. In such cases, the vocational education student recruitment and selection process needs scrutinization and probably some alterations.

Assumptions for Phase IV-Instruction

1. Instructor ineffectiveness as a cause for program dropouts and terminations is difficult to ascertain.

2. Students that are successful in vocational education programs were provided with accurate and realistic information regarding the program.

3. There are a certain number of students that will slip through the vocational education recruitment and selection phases of the schema regardless of its quality and extensiveness due to the inherent uncertainties in the process.

4. Retention and successful performance in vocational education programs are related to the career counseling process.

Phase V—Evaluation

The final phase of the schema (see Figure 5) deals with the gathering and analysis of data regarding the post-school activities of students that were recruited and selected for vocational education programs. Though the discussion of the evaluation phase has been reserved for last to facilitate a clear display of the schema, this by no means is meant to imply that evaluation is simply an activity that

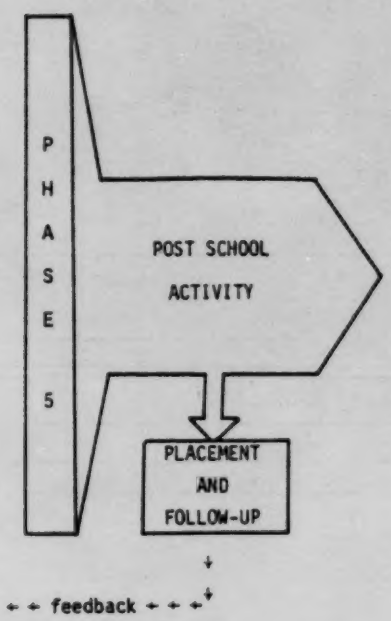

Figure 5: Evaluation Phase of the Schema

comes at the end of a program. Evaluation and planning are highly interrelated activities.[19] A brief illustration of the roles that evaluation can play in planning and assessing vocational education student recruitment and selection practices should demonstrate this notion.

Evaluation can serve two major roles: it can provide information for use in decision-making, and it can provide information for purposes of accountability. In a discussion linking the CIPP (Context-Impact-Process-Product) model of the Ohio State group[20] with Scriven's formative-summative distinction,[21] Stufflebeam presents a typology of evaluation by cross-matching evaluation roles (decision-making,

accountability) with evaluation variables (contextual or goal-related, input or design-related, process-related, product-related).[22] When gathering and providing information on variables to serve decision-making, evaluation is termed proactive (formative). When accountability is to be served by obtaining information on these variables, evaluation is considered to be retroactive (summative).

Information generated in Phase V of the schema is largely product-related and can be used in both retroactive and proactive evaluation. Potential data sources include the following: job performance data, former students' perception of training, employers' perception of training, placement rates. For purposes of accountability, this information can be used to document and defend outcomes of the recruitment and selection processes. Examples of questions to be answered in this retroactive evaluation include: Should the recruitment and selection program as designed and implemented be continued or modified? Are stated objectives and goals met by the program? What are the unexpected outcomes? The importance of extending this type of product evaluation beyond the immediate post-training period to include follow-up data on graduates at six months, one year, and five years after graduation must not be overlooked. Use of product-related information to serve decision-making requires that this information be fed back into relevant points in the planning and implementation of the recruitment and selection program. For example, data gathered on product-related variables such as students' perception of training and placement rates should be used for implementation decisions regarding the content of recruitment and the methods of selection.

Assumptions of Phase V-Evaluation

1. Evaluation is an activity that involves both description of program operation and judgment of the worth or merit of the program.

2. Evaluation provides critical information needed in the planning, structuring, and implementing of recruitment and selection designs and techniques.

3. Consumer satisfaction with the "product" of the vocational education system is a primary factor in establishing organizational accountability and legitimacy.

4. Evaluation methodologies suitable for application to evaluating recruitment and selection strategies and outcomes are available.

5. Methodologies needed to gather information on post-training success of vocational education program graduates are available.

Epilogue

The foregoing has been an attempt to portray and describe the contents of five major components--planning, recruitment, selection, instruction, evaluation--of a recruitment and selection schema for secondary level vocational education programs (see Figure 6). It should be apparent that the schema can be adapted for use within the context of a comprehensive career guidance system. Though aimed primarily at activities conducted by the area vocational school, the schema has elements which extend backwards to impact career development activities at earlier grade levels.

The list of assumptions accompanying each phase not only serve as foundations for the development of the schema but also function, in some cases, as guidelines in the consideration of implementation variables.

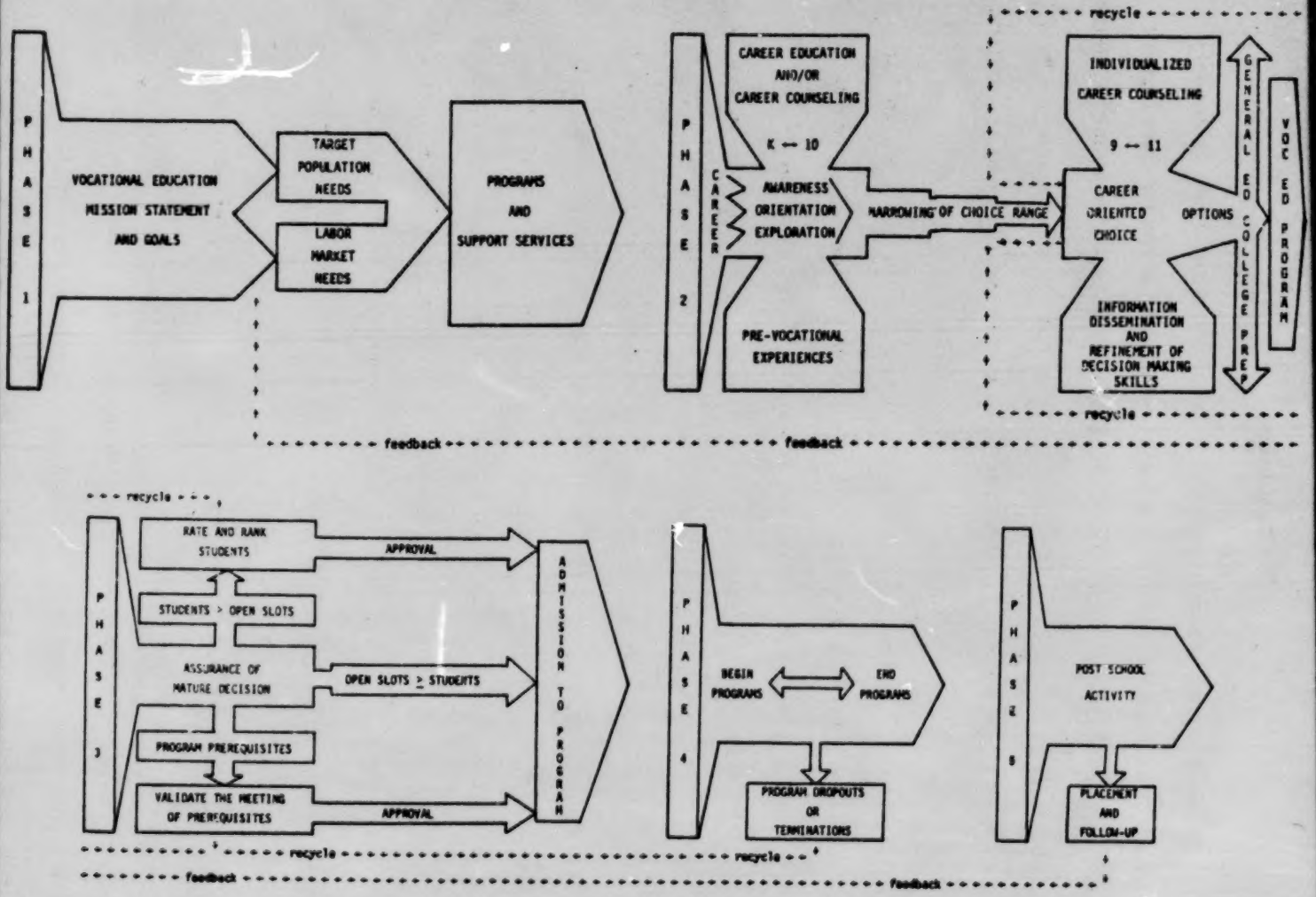

Figure 6: A Schema for Recruitment and Selection

Conclusions

It must be emphasized that the schema presented here is largely conceptual and theoretical. While it is grounded in career development theory and incorporates elements gleaned from practices observed in area vocational schools, it has yet to be implemented in its entirety. To a greater or lesser degree, each of the area vocational schools in Indiana are operating with parts of this five-phase schema.

The schema assumes several conditions. First, implicit in its design is the notion that vocational education must be presented as one of several educational alternatives from which individuals can choose. If vocational education does not exist as a real choice for the majority of students at the secondary level, then there is little point in expending efforts to recruit and select students. Second, successful operation of the schema is predicated on the flow of accurate and reliable information of several types, including local labor market information, information on student placement rates and success in training, data on student characteristics, training program requirements, etc. There can be little debate that the means for gathering this information are available. The schema assumes that this information is being gathered and that it can be organized for use in the recruitment and selection process. Third, development of the schema assumes that local school personnel are dedicated to the task of helping students make an informed and an accurate career-oriented choice. A blend of both trait-and-factor thinking and career development mentality is required. Persistence of "a square-peg-in-a-square-hole" and a

point-in-time conception of occupational choice will not facilitate the implementation of this schema. Finally, in a similar way, the schema holds to the notion that career-oriented choices are not immutable. Individuals can and do change their minds about careers; therefore, teaching and learning decision-making skills and fostering the acquisition of knowledge and attitudes necessary to cope with career-related decisions is of paramount importance.

The implementability of the schema is obviously conditioned by constraints in terms of available personnel, resources, and time. However, in those school settings where phases of the schema are already in operation, successful adoption of the entire schema appears to center on reorganization of available staff time, restructuring the use of available information, and developing institutional commitment to installing a successful means of recruiting and selecting students for vocational education programs. Though knowledge of the resistance to change cautions that these changes will not be forthcoming without the support of vocational administrators and the active participation of teaching and supportive staff, the survey of area vocational schools in Indiana indicated a perceived need for improvement in the processes of recruitment and selection.

SECTION III

Recruitment and Selection Practices

This section takes a closer look at recruitment and selection strategies and techniques. It extends the discussion of the rationale for these two activities that was begun in the previous section and describes several exemplary practices that, in the opinion of the research team, may merit further examination and adoption by local education agencies.

Recruitment

Recruitment of students for vocational education programs is here defined as that process of communication between representatives of the vocational school and the potential vocational education student relative to the procedure of applying for and admission to a specific type of vocational preparation. It includes the tasks of determining a student's needs relative to the vocational education that is offered, informing him/her of the program and services offered, educating him/her to the nature of the occupation for which the vocational training is considered preparation (e.g., worker activities, work settings, preparation required, levels of occupational opportunities, personal and financial rewards, growth factors, etc.), and facilitating the application procedure. In addition, these activities must be conducted in an unbiased manner so as not to restrict the process of application on the grounds of racial or sex-stereotypes.

Recruitment is the process of marketing either individual vocational programs or vocational education in general or both. The task of recruiting for vocational education opportunities in general involves the use of community education and public relations. Thus, a vocational education institution might distribute information or advertise throughout the community it serves detailing curriculum content, availability of classes, fees, advantages of acquiring skill training, etc. in an effort to encourage citizens to consider vocational education opportunities in general and the advantages of the individual institution in particular. The use of advertising media and school representatives as salesmen to create a general receptivity to and familiarity with vocational education in the community is, in a broad sense, a recruitment function. Here, recruitment aims at providing a continual "supply" of students for vocational training, a necessary condition for organizational survival.

In a narrower sense, recruitment is the process of marketing individual vocational education programs. It shares with the recruitment as community education/public relations approach the goal of promoting the advantages of vocational education. However, it refines or particularizes that goal in several ways. First, it assumes that student retention and success in training, as well as post-training success, is intimately related to informed and intelligent training choices. Thus, this type of recruitment includes careful assessment of student aptitude, interest, and ability with the intent of identifying a pool of potential vocational program enrollees. Second, because intelligent choices

require information, this type of recruitment supplies specific information on training program requirements and related occupational opportunities, requirements, working conditions, and the like. Third, this type of recruitment facilitates the application process by supplying potential enrollees with information and materials necessary for their ultimate matriculation. Both of these approaches to recruitment are long-term and dynamic activities. They require the use of timely and accurate information concerning the institution's services (curriculum offerings and support services), product (post-training success of graduates), and the marketing environment. The following simplistic but perhaps useful analogy illustrates the relationship between these two approaches: recruitment as community education/public relations aims at filling all the seats in a given school (helping the institution to run at full capacity); recruitment for a specific program attempts to guarantee both the student and the institution that the student made the right choice of seats.

The vocational program administrator seeking to learn more about effective recruitment strategies and techniques will find little help in the professional literature. Little has been written about methods of recruitment for vocational education programs, and even less is written about judging the effectiveness of particular recruitment strategies for increasing vocational program enrollment and retention. The material presented below has been abstracted from sources uncovered in a document search on recruitment in vocational education. Some useful hints and tips appear in this material, and those administrators or

other professional staff members interested in obtaining more information should refer to the reference notes that appear later in this handbook.*

Handbooks and Manuals

Few handbooks or manuals directly addressing recruitment of students for vocational education programs are available. The following sources are exemplary.

- The Professional Admissions-Recruiter Manual[23]
  This manual is concerned with the application of professional selling techniques to college admissions. Though not directed to vocational program recruitment it contains useful information on constructing an effective recruitment campaign that can be adapted to a vocational school setting.

- Recruitment Resource Manual[24]
  This 25 page brochure focuses on the role of the teacher in vocational program recruitment efforts. It briefly discusses the need to recruit and outlines several recruitment techniques.

- Developing a Program of Student Personnel Services for Area Vocational-Technical Schools (2 Vols.)[25]
  This two volume report presents the results of a developmental project conducted during 1966 and 1967 to plan and implement a program of student personnel services in Georgia's postsecondary state and area vocational-technical schools. Student personnel services are divided into the following seven major areas: Preadmissions (recruitment), Admissions, Records, Counseling, Information Service, Job Placement, and Evaluation. A rationale for each area is developed, objectives are outlined, and methods of implementation

---

*Some of these materials can be obtained through the state of Indiana's Vocational Education Services, See Appendix A.

explained. In addition to serving as a "how-to" guide for area vocational school student personnel specialists, the handbook contains numerous forms, sample letters, news releases, etc., for use in each phase of student personnel services.

Strategies and Techniques

The choice of recruitment strategies and techniques is constrained only by the imagination of the recruiter and the limitations of his/her budget. Examples of documented recruitment strategies and methods are highlighted below.

- A "Vocations Week" Program
  Here teachers, counselors, and community resource people coordinated their activities to provide a comprehensive view to high school students about various job opportunities. An interesting feature of this multi-method approach is that it was planned, initiated, and executed without the expenditure of additional school funds.[26]

- An "Education Expo"
  Graduates of vocational high schools participate in a comprehensive program designed to provide exposure to postsecondary educational opportunities appropriate to their specific needs.[27]

- Oregon IPAR[28]
  Though not conceived as a recruitment technique for attracting potential students to vocational programs, Oregon's IPAR program (originally The Institute for Public Affairs Research, now stands for "IPARticipate") serves as a strong public relations tool and career education experience.

  IPAR is a non-profit organization operating in Portland, Oregon, funded by volunteer contributions from foundations, businesses, individuals, and limited support from public education. It's objective is to bring students and teachers into closer contact with the working world through three major activities:

Recruiting community resources as speakers in classrooms for occupational exploration and to offer work experiences.

- Operating a central scheduling center through which teachers can tap these resources.

- Providing training and orientation for community members to upgrade the quality of their involvement in career education.

IPAR functions as a source of community resources to both back-up and enrich in-school career education.

- The Role of Teachers in Recruitment[29]

Every vocational-technical education program has a public image. Teachers can play a key role in creating a favorable image. In order to be an informed and functioning member of the public relations team, teachers need:

- To be made aware of their responsibility: If teachers are proud of their program and the students in the program, they should not hesitate to tell the world.

- To know what the media needs: Teachers must be informed of what newspapers, radio and television stations are likely to use, e.g., news stories, feature stories, public service announcements, etc. They must seek out the proper media person to contact.

- To receive training on working with the media: Teachers should attend a training session conducted by state or local public information personnel. They must be taught how to recognize news and relay the word to local public information persons or the media. If no one is responsible for news releases at the local level, then teachers should be taught how to write news releases. Each teacher should receive a written guide on news recognition and preparation and a list of suggested news releases.

- To be aware of other promotional techniques: Banquets for employers or local decision makers, speakers for local civic groups, window displays in downtown businesses, bulletin boards at local schools, etc.

- To be inspired to take action: It is important that all vocational teachers make a concerted effort, particularly during National Vocational Education Week. The combined effort of all teachers will have a tremendous impact on the public.

- The Role of Advisory Committees in Recruitment and Public Relations[30]

  Advisory committees can be invaluable in vocational program public relations. A few of the ways in which advisory committee members can be utilized include:

  - Address trade and civic groups concerning the relationship between industry needs and vocational training.

  - Provide news stories concerning school programs to trade magazines and local news media.

  - Attend meetings in support of vocational-technical education which may be called by local and state school officials, boards, and legislative groups.

  - Advise employers and their families concerning school programs by posting information on bulletin boards, providing news stories for company publications, and placing enclosures in pay envelopes.

  - Provide "success stories" of former vocational education students to news media.

  - Provide recognition/awards to outstanding students.

- The Role of Present and Former Students in Recruitment

  The importance of peer influence on decision making has been well documented. Hoyt reports that, "there is no doubt that youth place a great deal of credence in reports and opinions they receive from persons of about their own age who have experienced a particular situation under consideration. They tend to trust in and believe their peers more than they do adults -- including their teachers, their counselors, and their parents."[31]

> At issue here are questions of credibility and validity associated with reports from former vocational students. Reports received from one or two former students may be highly credible for the prospective student, but their validity is questionable.
>
> It is clear that prospective vocational education students need reports from present and former students of the vocational training programs they are considering and this data must be valid as well as credible. Professional staff must routinely collect, analyze, and report these data to prospective vocational education students, their parents, and the general public.

Selection

If recruitment refers to finding, educating, and persuading prospective students to enroll in vocational education programs, then admissions and selection refer to qualifying students for and counseling them into the proper choice among vocational education program options. There are several methods for accomplishing these processes of qualifying and counseling. The purpose of this section is not to present a foolproof selection method, but rather to examine several critical issues in the design of a selection strategy.

Three Roles for Vocational Appraisal

The use of vocational testing in recruitment and selection must be guided by a clearly articulated rationale. In planning recruitment and selection activities, counselors, administrators, and other professional staff must give careful consideration to spelling out the reasons for vocational appraisal and to documenting the status or role of appraisal in the overall program.

As noted in the discussion of selection in Section II of this monograph, vocational testing can serve three complementary roles. Vocational appraisal for description and diagnosis focuses on person and problem appraisal.[32] Through the use of intelligence, aptitude, and personality tests administered in both cross-sectional and longitudinal fashions, personal descriptions can be generated. These same tests can be used to identify or diagnose problems or difficulties in career decision making and development. Test information can be used in these ways to enhance a student's self-understanding and as a foundation for future coping with career development tasks.

Vocational appraisal for decision-making is a relatively recent development. The appearance of several instruments which provide data on the process of career choice have helped to focus career counseling on decisional and developmental principles.[33] This form of appraisal is concerned with determining a student's readiness for career choice and planning as well as with assessing his/her level of vocational maturity. Whereas traditional test-oriented career counseling focuses almost exclusively on choice content (i.e., which occupation would this student be most suited for?) vocational appraisal for decision-making is concerned with how career choices are made.[34]

A third role for vocational appraisal links vocational testing with career exploration. Proponents of this view argue that information on personal characteristics (e.g., intelligence, age, aptitude, interest, etc.) as they relate to various career choice options is a necessary but not sufficient condition for optimizing career development.[35] Thus, tests should be used in career guidance to

stimulate, broaden, and provide focus to career exploration; stimulate exploration of self in relation to career; and provide "what if" information with respect to various career choice options.[36] This approach emphasizes an exploratory versus a descriptive, predictive, or problem-solving application of testing.

Any or all of these approaches need careful examination by those who would choose one or more as a basis for a recruitment and selection program. As a recent study of the status of guidance, counseling, placement, and follow-up services in selected Illinois schools has shown, a systematic approach should be used for occupational assessment.[37] The appraisal of a student's interest, experience, aspiration, achievement, and goal identification should take the form of an organized system. Preferably, a system which involves the student in the decision-making process rather than a counselor-controlled and dictated system. Such a system should be available as early as junior high school to facilitate course planning while allowing for reassessment at subsequent stages.

Choosing Appropriate Selection Instruments

The use of standardized tests as tools in the selection of students for vocational education programs demands of these tests the ability to predict success and/or failure with minimum risks to the institution and to the individuals involved. In this section several critical issues in test selection will be examined.

Underlying the use of selection instruments is the principle that predictor variables are related to criterion measures or outcomes.

> The effectiveness of a test to predict or distinguish between successful and unsuccessful applicants for a program depends on the strength of the relationship (correlation) of the test scores with the outcome measure. It is assumed that the correlation between the criterion and predictor variable is a meaningful and useful description of the relationship between these two variables.[38]

For example, predictor variables such as test scores on aptitude, achievement, interest or personality tests, school grades, or expressed attitudes might be correlated with such outcomes as achievement in a program (grades earned), program completion, or various student characteristics.

However, two factors caution against the unexamined use of selection instruments. First, the nature of prediction isn't precise, for, as Goldman has stated,

> . . .considering the possible changes in the client and in the occupational and educational avenues open to him, it is clear that vocational appraisal, useful as it may be, will for most clients produce only approximate statements of the probable outcomes of their work and school activities.[39]

As Crites has argued, most tests have little or no predictive validity in forecasting vocational adjustment (success and satisfaction on the job after entry).[40] For the most part, tests used for vocational appraisal were developed within the conceptual framework of a trait-and-factor approach which is based on three assumptions: (1) each worker is best fitted for a particular type of work, (2) groups of workers in different occupations have different psychological characteristics, and (3) vocational adjustment varies directly with the extent of agreement between worker characteristics and work

demands. This framework overlooks the developmental nature of choosing, entering, and progressing in an occupation.[41] Thus, some developmental theorists argue that traditional tests are to be used to provide descriptive rather than predictive information about students.

Second, the bases for prediction are often not grounded in systematic and confirmed knowledge. In general, abilities and traits which are important predictors of success in training are not very similar to those which predict success in performance on the job.[42] Furthermore, the value of a given test as a predictor may change over time. Tests which are effective predictors of success in the initial stages of training may be of little value in later stages of training.[43]

Clearly, the lesson to be gained from this brief examination of factors involved in the use of tests to predict success in vocational training is that the choice of tests must involve careful consideration of the predictor-criterion relationship. Predictive and concurrent validity coefficients reported for tests must be examined for the strength of relationship. One must also consider the group of individuals on which the test was standardized because the validity coefficients reported are obtained under a specific set of circumstances with a specific group of individuals. Furthermore, one should realize that the literature indicates that

> the best predictors of future performance in training programs . . . have typically been intellective measures of cognitive ability (e.g., I.Q., reading, arithematic) and/or measures of past academic achievement in "solid subjects" (e.g., English, mathematics, etc.).[44]

In evaluating a test for use as a selection instrument, it may be helpful to judge its usefulness in view of the following criteria:

- What reliability coefficients are reported?
- What validity coefficients (predictive, concurrent) are reported?
- Are norms provided? If so, on what type of population?
- What is the reading level of the test?
- How much time does it take to complete the test?
- How is the test to be administered (to individuals or groups)?
- What kind of data does the test yield--descriptive, predictive?

Choosing a Selection Method

Selection methods can be classified as either clinical, nonmechanical or statistical, mechanical interpretations of selection data, or some combination of both. As Goldman describes it, the clinical method involves an inductive building-up of a "model" of the individual from which deductions are later made as to his/her probable behavior in a given situation.[45] Clinical "bridges" are built between selection data such as test scores, biographical facts, school grades, teacher recommendations, and outcomes such as entering a given vocational education program. The counselor, or other qualified individual, utilizing this method draws inferences from the selection data and makes comparisons of the individual's characteristics with the characteristics and demands of the training program for which

the student has expressed a preference. Such comparisons result in a decision about the probability of the student's success in and satisfaction with the vocational education program.

Several problems are inherent in the clinical method of selection. The counselor must judge how much weight to give each selection datum. This is often a very subjective and nonsystematic decision-making process. It is subject to the criticism that it is not uniform and relies too heavily on the counselor's personal judgment and is unsupported by "hard data". In the process of making comparisons, the counselor must rely on his/her knowledge of occupations, the occupational literature, and program characteristics. To the extent that this knowledge is incomplete or biased, the method of selection suffers. It bears repeating that a major shortcoming of the clinical method is that in practice it is often poorly documented and incapable of being substantiated by references to multiple selection data. Often, a clinical-type selection is employed using a student's expressed interest as the primary selection criterion. Assessing the "genuineness" of that expressed interest becomes the crux of the clinical interpretation. It is unlikely that a single selection criterion provides sufficient information on which to base a clinical interpretation.

To overcome these shortcomings, counselors and others employing this method would do well to consider the following suggestions for effective use of the clinical method:

- Build an individual model of comparisons for each student, letting the model develop from facts about that student rather than forcing facts to fit a preconception of the type of person suited for a particular program.[46]

- Be thoroughly familiar with tests used.
- Be thoroughly familiar with the requirements and conditions of the various vocational educational programs.
- Have a thorough knowledge of occupations and their requirements for which the vocational programs are considered to be preparation.
- Study one's self as an interpreter. Check the rate of successes and failures and determine biases.[47]

Statistical or mechanical selection methods involve the use of quantified empirical data to tie together a test score or set of scores with an expected outcome or set of behaviors. Whereas in clinical interpretations bridges are built by the counselor who "subjectively" links data together with inferences, in statistical interpretations bridges are "objectively" formed by using normative, discriminant, or regression data. Briefly, normative bridges involve an examination of how an individual's scores on a battery of tests compare with those of people in that field; discriminant bridges involve a determination of which group (distinguished by vocational program) an individual resembles most in overall makeup of abilities, interests, and other characteristics; and, a regression bridge is used to form an estimate of the extent to which a student is likely to experience success and/or satisfaction within a given program.*

Each of these particular statistical bridges has unique problems. For example, construction of normative bridges are often hampered by the

---

*A discussion of the use of statistical bridges is far too lengthy and complex to include in this brief treatment. The reader should refer to the references to Sax, Goldman, and Prediger for a more indepth look at these methods.

fact that tests used in selection were normed and validated on populations other than vocational education students and for purposes other than vocational education program selection. The use of regression bridges is limited by low correlation coefficients. An r must be at least .66 to yield a prediction which is 25% better than a random guess, and at least .86 to yield a prediction that is 50% better than chance.[48] Thus, the statistical method of selection, though often heralded as a more sound approach is also beset by difficulties.

In sum, neither clinical nor statistical methods of interpretation are infallible for use in the selection of students for vocational education programs. Each is an attempt to translate data into information that is useful in making a selection decision. Both are capable of failure due to errors in judgment in the selection of tests and the translation of data. What is critical is that the method chosen be documentable, free from conscious bias, uniform in application, and demonstrable in effectiveness.

SECTION IV

Summary

The material in this monograph has been assembled to shed additional light on the processes of recruiting and selecting students for vocational education programs. It does not pretend to be a complete treatment of either topic, rather it is offered as "food for thought" for those individuals involved in developing and/or improving recruitment and selection strategies. The schema and extended discussions of recruitment and selection are meant to be suggestive and to serve as a stimulus to further exploration and investigation.

In the best of all possible worlds, vocational institutions would be expected to recruit, select, and place applicants in programs that would simultaneously meet the abilities, interests and needs of the applicant and society's need for trained and educated workers. Of course, in the real world, this optimum strategy for recruitment and selection isn't possible. Every recruitment and selection program must therefore be a blend of student motivated selection and institutionally provided guidance. Balancing the needs of the labor market with the capabilities of the vocational education institution is both art and science. It is anticipated that the information provided here will lend further insight into developing a successful blend.

SECTION V

Reference Notes

1. Koontz, H., & O'Donnel, C. *Principles of management: An analysis of managerial functions.* New York: McGraw-Hill, 1972. p. 113

2. Atteberry, J.W., Miller, W.R., & Pershing, J.A. *Improving vocational education planning: More myth than reality?* Columbia, MO: University of Missouri, Department of Practical Arts and Vocational-Technical Education, 1977. p. 7

3. U.S. Congress. *Title II-vocational education.* P.L. 94-482. Washington, DC: U.S. Government Printing Office, October 12, 1976.

4. Atteberry, J.W., Miller, W.R., & Pershing, J.A. *Improving vocational education planning: More myth than reality?* Columbia, MO: University of Missouri, Department of Practical Arts and Vocational-Technical Education, 1977. p. 13

5. Leighbody, G.B. *Vocational education in America's schools.* Chicago: American Technical Society, 1972. p. 36

6. The distinction between counseling as a treatment condition and as a stimulus variable was originally drawn by Super, D.E. and later elaborated on by Crites, J.O. *Vocational psychology.* New York: McGraw-Hill, 1969, and Herr, E.L., & Cramer, S.H. *Vocational guidance and career development in the schools: Toward a systems approach.* Boston: Houghton Mifflin, 1972.

7. Harris-Bowlsbey, J. *Structure and technology for facilitating human development through career education.* DeKalb, IL: Northern Illinois University, ERIC Clearinghouse in Career Education, Information Series No. 6, 1975. p. 10

8. Prediger, D.J. *Converting test data to counseling information,* ACT Research Report No. 44. Iowa City, IA: The American College Testing Program, Research and Development Division, 1971, and The role of assessment in career guidance: A reappraisal. In C.W. Ryan (Ed.), *Career guidance: Status and promise.* Report of the May, 1974 Career Guidance Conference sponsored by the Division of Counselor Education, College of Education, University of Maine at Orno, January, 1975. (ERIC Document Reproduction Service No. ED 117 306)

REFERENCES, *continued*

9. Herr, E.L., & Cramer, S.H. *Vocational guidance and career development in the schools: Toward a systems approach.* Boston: Houghton Mifflin, 1972. p. 10

10. Harris-Bowlsbey, J. *Structure and technology for facilitating human development through career education.* DeKalb, IL: Northern Illinois University, ERIC Clearinghouse in Career Education, Information Series No. 6, 1975. p. 15

11. Cox, K., & Enis, B. *The marketing research process: A managerial approach to purchasing relevant information for decision-making.* Pacific Palisades, CA: Goodyear Publishing Company, 1972.

12. See for example, Treadwell, D. Hard work - not hard sell - boosts admissions, *College Management Magazine,* August/September, 1974; Lynch, R.G. Marketing the small college, *College Management Magazine,* September, 1969; Fram, E. Why we must market education, *Chronicle of Higher Education,* April 17, 1972.

13. Anderson, W.T., Jr., Bentley, C.C., & Sharpe, L.K., IV. *Multidimensional marketing: Managerial, societal, philosophical.* Austin, TX: Austin Press, 1976.

14. Crites, J.O. *Vocational psychology.* New York: McGraw-Hill, 1969. pp. 514-575

15. Super, D.E. *The psychology of careers.* New York: Harper and Brothers, 1957. pp. 187-191

16. Goldman, L. The process of vocational assessment. In H. Borow (Ed.), *Man in a world of work.* Boston: Houghton Mifflin, 1964. pp. 389-410

17. Gribbons, W.D., & Lohnes, P.R. *Emerging careers.* New York: Columbia University, Teachers College, Teachers College Press, 1968. pp. 15-16

18. The responsible use of tests. A position paper of AMEG, APGA, and NCME. *Measurement and Evaluation in Guidance,* 1972, 5(2), 385-388.

19. Suchman, E. *Evaluation research.* New York: Russell Sage Foundation, 1967.

20. Stufflebeam, D.L., Foley, W.J., Gephart, W.J., Guba, E.G., Hammond, R.L., Merriman, H.O., & Provus, M.M. *Educational evaluation and decision making.* Itasca, IL: Peacock, 1971.

REFERENCES, *continued*

21. Scriven, M. The methodology of evaluation. In R.E. Stake (Ed.), *AERA monograph series on evaluation, no. 1*. Chicago: Rand McNally, 1967.

22. Stufflebeam, D.L. Module II. Evaluation according to Daniel L. Stufflebeam. In W.J. Popham (Ed.), *Evaluation in education*. Berkeley: McCutchan, 1974. pp. 116-143

23. Ireland, R.C. *The professional admissions-recruiter manual*. Littleton, CO: The Ireland Educational Corporation, 1974. (Can be purchased from The Ireland Educational Corporation, 2275 East Arapahoe Road, Suite 313, Littleton, CO 80122)

24. *Recruitment resource manual*. Manchester, MO: Gregg/McGraw-Hill, 1978. (Available from Gregg/McGraw-Hill, Manchester Road, Manchester, MO 63011)

25. Bottoms, J.E., & Otte, F.L. *Developing a program of student personnel services for area vocational-technical schools* (2 vols.). Atlanta, GA: Georgia Department of Education, Division of Vocational Education, 1968. (Available from Division of Vocational Education, Georgia Department of Education, Atlanta, GA 30334)

26. Zeller, B. A vocations week program. *Personnel and Guidance Journal*, 1975, 54(2), 108-108.

27. Elmo, J.P., Pomerantz, M. Education expo for vocational-technical high school. *Vocational Guidance Quarterly*, 1976, 24(3), 273-277.

28. For more information contact IPAR, Andrew E. Jacobs, Jr., Executive Director, 516 E. Morrison, Suite 710, Portland, OR 97214.

29. Adapted from *The teacher as a member of the public relations team* presented by Dale Cotton at the American Vocational Association convention, December 2, 1978.

30. Adapted from *Advisory committees--a public relations opportunity* presented by Jeanine Hicks at the American Vocational Association convention, December 2, 1978.

31. Hoyt, K.B. The individual and his choice of vocational education. In A.H. Krebs (Ed.), *The individual and his education*. Washington, DC: American Vocational Association, 1972.

REFERENCES, *continued*

32. Crites, J.O. **A reappraisal of vocational appraisal.** *Vocational Guidance Quarterly*, 1974, 22, 272-279.

33. See for example the discussion of the Career Maturity Inventory, the Cognitive Vocational Maturity Test, and the Career Development Inventory in Super, D.E., et al. *Measuring vocational maturity for counseling and evaluation.* Washington, DC: National Vocational Guidance Association, 1974.

34. Crites, J.O. A reappraisal of vocational appraisal. *Vocational Guidance Quarterly*, 1974, 22, 272-279.

35. Prediger, D.J. *The role of assessment in career guidance: A reappraisal.* (ERIC Document Reproduction Service No. ED 117 306)

36. Ibid.

37. Burgener, V.E., Stark, R.L. *Guidance, counseling, placement and follow-up in selected Illinois schools.* (ERIC Document Reproduction Service No. ED 120 579)

38. Sax, G. The use of standardized tests in evaluation. In W.J. Popham (Ed.), *Evaluation in education.* Berkeley: McCutchan, 1974.

39. Goldman, L. *The process of vocational adjustment.* p. 393

40. Crites, J.O. Appraising the appraisal instruments. *American Vocational Journal*, 1968, 43, 22-24, 53.

41. Ibid.

42. Ghiselli, E.E. *The validity of occupational aptitude tests.* New York: John Wiley and Sons, 1966.

43. Stock, W.E., & Pratzner, F.C. *Review of research on student selection and the prediction of success in occupational education.* Minneapolis: University of Minnesota, Minnesota Research Coordination Unit in Occupational Education, 1969.

44. Ibid., p. 4

45. Goldman, L. *Using tests in counseling.* New York: Appelton-Century-Crofts, 1961. pp. 189ff

46. Ibid., p. 190

47. Ibid., pp. 204-206

48. Ibid., p. 174

SECTION VI

Appendices

Appendix A: Vocational Education Services

Professional staff in Indiana interested in obtaining further information on recruitment and selection strategies may want to utilize the capabilities of Vocational Education Services.

This organization offers the following types of assistance:

- Information Searching

  The service specializes in finding information. Using its own resources and those of the Indiana University Libraries, the staff can help you answer questions such as *who, what, why, when, how,* or *how many*. They can look for educational statistics, refer you to a single book, or prepare a specialized bibliography for you from more than 120 computerized data bases.

- Free Loan Service and State Project Library

  The service collects, indexes, and loans print and nonprint instructional materials, research documents developed around the country, and many publications from the National Center for Research in Vocational Education. It also maintains a loan collection of proposals, final reports, and products of State Board of Vocational and Technical Education funded projects. In addition to its own collection, the service loans ERIC microfiche and other documents from the Indiana University Libraries.

- Consulting Services

  Staff members consult on the development of instructional materials. They also assist in adapting existing materials for special needs students.

Vocational Education Services
840 State Road 46 Bypass, Room 111
Indiana University
Bloomington, IN 47405
(812) 337-6711

Appendix B: Test Instruments

Listed below are test instruments appropriate for group or individual administration and interpretation. This is a representative sample of the more than 1,600 measures available to assess attributes of human behavior, vocational interest and maturity, educational interest, achievement, and values. Six categories of instruments are provided: Achievement Batteries, Aptitude Measures, Measures of Career Development/Planning, Interest Inventories, Personality Measures, Miscellaneous. Each test entry is accompanied by its author(s) name and/or publisher, and a summary of its content/usability. Reliability and validity information should be obtained from the publisher.

Sources of Information:

Andrulis, Richard S. *Adult assessment: A source book of tests and measures of human behavior.* Springfield, IL: Charles C. Thomas, 1977.

Buros, Oscar K. (Ed.). *Personality tests and reviews.* Highland Park, NJ: The Gryphon Press, 1970.

_____. *Tests in print II.* Highland Park, NJ: The Gryphon Press, 1974.

_____. *The fifth mental measurements yearbook, 1959; The sixth mental measurements yearbook, 1965; The seventh mental measurements yearbook, 1972.* Highland Park, NJ: The Gryphon Press.

Cottle, William C. *Interest and personality inventories.* Boston: Houghton Mifflin Co., 1968.

Mehrens, William A., & Lehman, Irvin, J. *Standardized tests in education.* New York: Holt, Rinehart and Winston, 1975.

Selected tests for assessing career development. South Bend, IN: Indiana Career Resource Center, February 1977.

Super, Donald E., & Crites, John O. *Appraising vocational fitness*. New York: Harper and Bros., 1962.

ACHIEVEMENT BATTERIES

1. Adult Basic Learning Examination (ABLE)--Level III
Bhorn Karlsen, Richard Madden, Eric F. Gardner; Harcourt Brace Jovanovich, Inc.

Designed for adults with achievement levels grades 9-12. Six scores: vocabulary, reading, spelling, arithmetic (computation, problem solving, total).

This battery is designed to assess the general educational level of adults who do not have a formal eighth grade education. It can serve as a device with which to plan educational programs for adults, measure progress in such a program, and diagnose individual strengths and weaknesses.

2. California Achievement Tests (CAT), 1970 Edition
Ernest W. Tiegs, Willis W. Clark; CTB/McGraw-Hill.

Level 4/Form A--grades 6-9; Level 5/Form A--grades 9-12. A battery of nine tests which assesses three basic skill areas: reading (language, comprehension); mathematics (computation, concepts, problems); language (mechanics, punctuation, usage and structure, spelling).

Skills measured include the ability to understand the meaning of content material, application of rules, facts, concepts, conventions, and principles in problem solving situations. The CAT also aims to assess the student's capabilities in using the tools of reading, mathematics, and language in progressively difficult situations.

3. Comprehensive Tests of Basic Skills (CTBS)--Level IV
CTB/McGraw-Hill.

Forms Q, R, S for grades 8-12. Four major tests: reading, language, arithmetic, study skills each divided into two or three subtests.

This test is designed to measure the extent to which students have acquired skills required for effective use of language and numbers in everyday living and for further academic study.

4. Iowa Test of Educational Development--Forms X-5, Y-5
Prepared under the direction of E.F. Lindquist and Leonard S. Feldt; Science Research Associates, Inc.

Grades 9-12. A battery of eight tests: reading (comprehension, vocabulary), language arts (usage, spelling), social studies, natural sciences, use of sources.

This battery attempts to determine the degree to which the student is able to understand and critically analyze materials found in adult and "real" world situations by drawing upon accumulated knowledge. It is an assessment of skills presumably possessed by the student in light of how he/she will apply them as a productive adult.

5. Metropolitan Achievement Tests: High School Battery
Walter N. Durost (Ed.); Harcourt Brace Jovanovich, Inc.
(Listed as out-of-print in Tests in Print II, 1974)

Grades 9-13. Four basic skill areas in 11 subtests: language arts (reading, language, language study skills, spelling); mathematics (computation and concepts, analysis and problem solving); science (information, concepts and understandings); social studies (information, vocabulary, skills).

This measure assesses an individual's learning progress and it has proved useful in vocational evaluation and guidance.

6. Stanford Achievement Test: High School Basic Battery
E.F. Gardner, Jack C. Merwin, Robert Callis, Richard Madden; Harcourt Brace Jovanovich, Inc.

Grades 9-12. Student achievement is measured in reading, spelling, English, numerical competence, mathematics, social studies, and science. This instrument can also test achievement in specialized courses relating to college preparatory, business, and technical curricula. Arts/Humanities, Business/Economics, and Technical Comprehension subtests are available in separate booklets.

Results obtained by this instrument may serve as an evaluator of potential student performance as either working adults or college students in that it measures knowledge expected to have been accumulated by the student.

7. Test of Adult Basic Education
CTB/McGraw-Hill.

Except for very minor changes, these tests are identical with the 1957 California Achievement Tests of corresponding grade levels.

It is designed to test achievement in three areas: reading, arithmetic, language (levels M and D only)--at reading levels of children in grades 2-4 (Level E), grades 4-6 (Level M), and grades 7-9 (Level D).

8. The Wide Range Achievement Test (WRAT)--Level II, Revised Edition
Joseph F. Jastak, Sarah R. Jastak; Guidance Associates of Delaware, Inc.

Ages 12 and over. Three scores: spelling, arithmetic, reading.

This measure is intended to be used with intelligence tests and behavior adjustment inventories as a supplemental device. It is suitable for assessment of capabilities for job placement in business and industry.

MEASURES OF CAREER PLANNING

1. ACT Assessment of Career Development (ACD)
Dale Prediger, Bert Westbrook, John Roth; The American College Testing Program.

Grades 8-11. A criterion referenced achievement test with 11 scores: occupational knowledge (occupational characteristics, occupational preparation requirements); exploratory occupational experiences (social-health-personal services, business sales and management, business operations, technologies and trades, natural-social-medical sciences, creative and applied arts, total); career planning (knowledge, involvement).

Intended to provide information needed by counselors in designing career guidance experiences for individual students. May also be used to assess the career development status of student groups and to evaluate career guidance programs at the secondary level.

2. ACT Career Planning Program (CPP)
The American College Testing Program

Entrants to post-secondary educational institutions. A battery of interest, ability, and background measures which may be administered by participating institutions.

The Student Report lists ratings of interests, competencies, abilities, and expectancies of educational success in each of eight vocational areas: trades, technical, science, health, arts, social service, business contact, business detail. In addition to this Vocational Interest Profile, the CPP provides the following scores on an Ability Measures section: mechanical reasoning, numerical computation, mathematics usage, space relations, reading skills, language usage, clerical skills, nonverbal reasoning. The Student Information Section provides data on background, educational plans, student concerns, work orientation, and career-related competencies.

3. ACT Guidance Profile, Two-Year College Edition
Research and Development Division, American College Testing Program.

Students at the junior college level. A self-administered inventory in five areas: Ambitions and Plans; Self-Estimates; Occupational Interests (technical-realistic, scientific-intellectual, artistic, social, enterprising, clerical-conventional, infrequency); Potentials (technical, scientific, artistic, musical, literary, dramatic, social, enterprising, clerical); Competencies (skilled trades, home economics, scientific, artistic, social, business, leadership, clerical, sports, language).

4. Career Maturity Inventory (CMI)
(Formerly called Vocational Development Inventory) John O. Crites: CTB/McGraw-Hill.

Grades 6-12, college, adult. Two measures: Attitude Scale; Competence Test with five subtests: self-appraisal, occupational information, goal selection, planning, problem solving. This instrument is designed for the purpose of studying career development, screening career immaturity, assessing guidance needs, evaluating career education or testing in career counseling.

5. College Guidance Program
Esther E. Diamond, George Heigho; Science Research Associates, Inc.

Designed for 11th graders. Consists of a College Planning Test (CPT) which resembles the SAT or ACT and provides a reading, verbal, mathematics, and a composite score. An optional test is the Kuder Interest Survey, College Edition which is similar to the Kuder Occupational Interest Survey (KOIS) except that fewer occupational scores are reported.

Counselors may use the information generated by this survey to help the student make realistic, viable, and valid decisions regarding his/her future educational plans.

6. Comparative Guidance and Placement Program (CGP)
Program administered for the College Entrance Examination Board by Educational Testing Service.

Entrants to two-year colleges and vocational-technical institutions.

A battery of background, abilities, and interest measures which may be administered at any time by the participating institution. Interest and background measures include a Biographical Inventory and a Comparative Interest Index which yields 11 scores: mathematics, physical science, engineering technology, biology, health, home economics, secretarial, business, social science, fine arts, music. A Placement Measure yields scores in reading, sentences, and mathematics. The Special Abilities section provides scores on ability to follow directions, inductive reasoning, perceptual speed and accuracy.

7. The Vocational Interest, Experience and Skill Assessment (VIESA)
The American College Testing Program.

Grades 8-12. A self-scored inventory of career-related interests, skills, experiences. Contains four assessment measures: Career Interest Inventory; Career-Related Experience Inventory; Skill Ratings; Occupational Preference.

Designed to stimulate and facilitate self and career exploration. May be used as a teaching module as well as an assessment instrument. The instrument yields a comprehensive structure for organizing information about self and the world of work.

APTITUDE MEASURES

1. Aptitude Tests for Occupations
Wesley S. Roeder, Herbert B. Graham; CTB/McGraw-Hill.

Two forms: grades 9-13; adults. A battery of six aptitude tests: Personal-Social, Mechanical, General Sales, Clerical Routine, Computational, Scientific.

This measure may best be used in conjunction with a vocational interest inventory. The student may take the battery of tests singly or in any combination. Administration of the entire series yields a total profile.

2. The Dailey Vocational Tests
John T. Dailey, Kenneth B. Hoyt; Houghton Mifflin Co.

Grades 8-12 and adults. A series of three tests: Technical and Scholastic Test, Spatial Visualization Test, Business English Test. Available separately.

Aimed at measurement of vocational potential as a combination of scholastic ability, technical knowledge, and aptitude. Intended for screening, selection, and evaluation in post high school, trade, technical and business training institutions.

3. Differential Aptitude Tests (DAT)--Forms S & T
George K. Bennett, Harold G. Seashore, Alexander G. Wesman; Psychological Corporation.

Grades 8-12 and adults. A battery of eight measures: verbal reasoning, numerical ability, abstract reasoning, clerical speed and accuracy, mechanical reasoning, space relations, spelling, language usage. Subtests available as separates.

Intended as a tool showing aptitude for broad occupational areas.

4. Flanagan Aptitude Classification Tests (FACT)
John C. Flanagan; Science Research Associates, Inc.

Ages 16 and over. A battery of 16 tests: Inspection, Coding, Memory, Precision, Assembly, Scales, Coordination, Judgement and Comprehension, Arithmetic, Patterns, Components, Tables, Mechanics, Expression, Reasoning, Ingenuity. Job analysis of skills considered important to success in various business and industrial occupations yielded these 16 measures.

Combinations of the tests are used based on the interest area for which the student is seeking self-information.

5. General Aptitude Test Battery (GATB)
Test booklets and manuals distributed by the United States Government Printing Office. Contact Sales Employment Service Office.

Grades 9-12 and adults. Developed by the United States Employment Service for use in its occupational counseling program. A battery of eight paper and pencil tests plus four performance tests yielding nine scores: intelligence, verbal, numerical, spatial, form perception, clerical perception, motor coordination, finger dexterity, manual dexterity.

The tests are designed to measure ability traits that are important in predicting success in a substantial sample of occupations that can be identified. It is intended for use in counseling individuals who are looking for occupations or who want assistance in the choice of vocational training.

6. Guilford-Zimmerman Aptitude Survey (GZAS)
J.P. Guilford, Wayne S. Zimmerman; Sheridan Psychological Services, Inc.

Grades 9-16 and adults. A seven part test: verbal comprehension, general reasoning, numerical operations, perceptual speed, spatial orientation, spatial visualization, mechanical knowledge. Each test yields one score. Tests may be used separately or in various combinations.

7. Multiple Aptitude Tests
David Segel, Evelyn Raskin; CTB/McGraw-Hill.

A battery consisting of nine subtests as follows: verbal comprehension (word meaning, paragraph meaning); perceptual speed (language usage, routine clerical facility); numerical reasoning (arithmetic reasoning, arithmetic computation); spatial visualization (applied science and mechanics, two-dimensional space relations, three-dimensional space relations). Yields one score for each subtest as well as a composite score for each of the four major factors.

8. SRA Primary Mental Abilities Test
L.L. Thurstone, Thelma G. Thurstone; Science Research Associates, Inc.

Grades 6-9, 9-12, adults. A battery of tests measuring verbal meaning, number facility, reasoning, spatial relations.

9. TAV Selection System (TAV)
R.R. Morman; TAV Selection System.

Adults. The letters "T", "A", "V" stand, respectively, for the three interpersonal orientations of (a) moving toward people, (b) moving away from people, (c) moving (toward) versus (against) people. To measure these modes of relating to others, TAV provides seven tests which may be administered either singly or as an entire battery.

10. Vocational Planning Inventory (VPI)
Science Research Associates, Inc.

Grades 8-13. A battery consisting of the SRA arithmetic index, SRA pictorial reasoning test, SRA verbal form, survey of interpersonal values, survey of personal values, mechanics subtest of the Flanagan Aptitude Classification Test and a number of tests from the Flanagan Industrial Tests.

INTEREST INVENTORIES

1. California Occupational Preference Survey (COPS)
Robert R. Knapp, Bruce Grant, George Demos; Educational and Industrial Testing Service.

Junior and senior high school, college students, young adults. An inventory providing job activity interest scores based on 14 occupational clusters which may be used as an entry to most occupational information systems (e.g., DOT and VIEW). Designed to assist students in career exploration. May be used in curriculum planning and selection of specific courses during the student's school years.

2. Career Guidance Inventory (CGI)
James E. Oliver; Educational Interest Testing Associates.

Grades 7-13. Students interested in trades, services, technologies. An interest profile yielding 25 scores: 14 in engineering-related trades (carpentry, masonry, tool and die making, etc.) and 11 in nonengineering-related services (environmental health, business management, sales, communications, etc.).

3. Educational Interest Inventory
James E. Oliver; Educational Interest Testing Associates.

High school seniors and college freshman. Available in both male and female forms. A series of 24 paired statements that have been constructed for 18 fields (females) and 19 fields (males) of study from art to zoology.

4. Guilford-Shneidman-Zimmerman Interest Survey
J.P. Guilford, Edwin Shneidman, Wayne S. Zimmerman; Sheridan Psychological Services, Inc.

Grades 9-16 and adults. A preferential inventory consisting of 360 items or activities to which the student responds "D"--dislike or don't know, "H"--appeals as a hobby, and/or "V"--appeals as a vocation. Yields 18 scores in nine general areas with dual scores for "H" and "V" in each area. Areas include artistic, linguistic, scientific, mechanical, outdoor, business-political, social, personal, office.

5. Guilford-Zimmerman Interest Inventory
J.P. Guilford, Wayne S. Zimmerman; Sheridan Psychological Services, Inc.

Grades 9-16 and adults. A preferential inventory consisting of 150 items/activities for which the student indicates the degree of intensity of his/her interest. Yields ten scores: mechanical, natural, aesthetic, service, clerical, mercantile, leadership, literary, scientific, creative.

6. Hall Occupational Orientation Inventory, Second Edition
L.G. Hall, R.B. Tarrier, D.L. Shappell; Follett Educational Corporation.

Grades 7-16 and adults. A 200 item self-scoring rating instrument yielding 22 scores. Designed to assist individuals with summarizing their tested psychological needs, worker traits, and job characteristics in such a way as to realize the direction of their feelings about these factors.

7. Harrington/O'Shea System for Career Decision-Making (CDM)
Thomas F. Harrington, Arthur J. O'Shea; Career Planning Associates.

Junior high school through adults. Surveys six critical elements in the career decision-making process: stated occupational choices, school subjects, plans for future education or training, job values clarification, abilities and interests.

8. Kuder General Interest Survey (KGIS), Form E
(A revision and downward extension of the KPR-V)
G.F. Kuder; Science Research Associates, Inc.

Grades 6-12. Five-hundred and fifty-two statements arranged in 184 triads. A forced-choice inventory yielding scores in ten occupational scales: outdoor, mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, clerical. Includes a verification scale.

Vocational preferences are expressed as cluster areas. The instrument is designed to measure interests of younger people.

9. Kuder Occupational Interest Survey (KOIS), Form DD
G.F. Kuder; Science Research Associates, Inc.

High school students and adults. Three hundred items arranged in 100 triads. A forced choice test with 77 occupational scores and 29 college-major scores reported for men; 57 occupational scores and 27 college-major scores reported for women. Interest categories for occupations and college majors are the same as for the KGIS.

Vocational preferences are expressed as specific occupational choices. Scores yield indicators to be used as a pattern of interest. This pattern serves as an aid in choosing occupations in the same field or along the same line of interest.

10. Kuder Preference Record--Vocational (KPR-V), Form C
G.F. Kuder; Science Research Associates, Inc.

Grades 9-16 and adults. Also a triadic-item arrangement, providing measures of preferences in ten general interest areas. Verification scale included.

11. Minnesota Vocational Interest Inventory (MVII)
Kenneth E. Clark and David P. Campbell; The Psychological Corporation.

Males, age 15 and up. Consists of 158 triads for which the subject selects the one he/she would most like to do and the one he/she would least like to do. Yields scores on 21 occupational scales and nine area scales (mechanical, health service, office work, electronics, food service, carpentry, sales-office, clean hands, outdoors).

Designed to measure interests in nonprofessional occupations. Appropriate for high school students who do not plan to attend college, vocational school students, students in two-year technical schools, apprentice candidates, dropouts, technically displaced workers, unemployed adults who are in need of retraining.

12. Ohio Vocational Interest Survey (OVIS)
Ayres G. D'Costa, David W. Winefordner, John G. Odgers, Paul B. Koons, Jr.; Harcourt Brace Jovanovich.

Grades 8-12. An interest survey of 280 items that profiles an individual's interest along 24 job clusters. These clusters represent the entire spectrum of occupations represented in the Department of Labor's Dictionary of Occupational Titles. Also contains a Student Information Questionnaire which gathers information about the student's occupational plans, subject area preferences, etc.

The OVIS is valuable as a way of helping students gain an understanding of their interest and how these interests relate to the world of work. It is not a predictive instrument.

13. The Self-Directed Search (SDS)
John Holland; Consulting Psychologists Press, Inc.

Ages 15 and up. A self-administered, self-scored, and self-interpreted vocational counseling tool, organized in terms of Holland's six personality types: Realistic, Artistic, Investigative, Social, Enterprising, Conventional. Using an Assessment Booklet with sections on occupational daydreams, activities, competencies, occupations, and self-estimates, the individual evaluates his/her own interests and abilities and his/her resemblance to each of the six types. Yields a summary code which the student applies to the Occupations Finder containing 414 occupational titles.

14. Strong-Campbell Interest Inventory (SCII)
E.K. Strong, David P. Campbell; Stanford University Press.

Grades 11-12, college, adults. Combined sex edition of the SVIB (see below). Intended as an aid in making educational and occupational choices; as a vehicle in discussion between student and counselor; as a selection device in the hands of those who must make employment decisions; and as an aid in helping people understand their job dissatisfaction.

15. Strong Vocational Interest Blank--Women (SVIB-W)
Strong Vocational Interest Blank (SVIB)
E.K. Strong; Stanford University Press.

Ages 16 and over. Consists of about 400 items (occupations, school subjects, amusements, activities, types of people, personal characteristics) for which student indicates preference in a variety of ways. Scores for about 50 occupations for men and 30 for women are available.

Designed to assess the interests of individuals and compare these interests with successful individuals in occupations of a white-collar nature.

16. Thurstone Interest Schedule
L.L. Thurstone; Psychological Corporation.

Grades 9-16 and adults. A paired comparisons checklist of 100 pairs of vocation or job titles. The student expresses preference for one of each pair. Yields scores in ten areas: physical science, biological science, computational, business, executive, persuasive, linguistic, humanitarian, artistic, musical.

17. Vocational Preference Inventory (VPI)
John Holland; Consulting Psychologists Press, Inc.

Ages 14 and over. Based upon the hypothesis that an individual's choice of an occupation is an expression of his/her personality. Yields 11 scores--six of which measure specific interests and relate them to learning environments; five of which yield information about the subject's personality.

18. Work Values Inventory (WVI)
Donald Super; Houghton Mifflin Co.

Grades 7-16 and adults. A 45 item forced-choice inventory that measures an individual's attitudes toward social and intellectual values that provide satisfaction and effectiveness in one's career. Fifteen scales.

PERSONALITY MEASURES

1. California Psychological Inventory (CPI)
Harrison G. Gough; Consulting Psychologists Press, Inc.

Ages 13 and over. A 480 item questionnaire with 18 scales and three checks to guard against faking. Intended to measure easily understood and socially desirable behavioral tendencies. The inventory claims to develop and use behavioral descriptions with wide social and personal application among normal individuals.

Particularly applicable in settings where one is interested in identifying and maximizing the positive and favorable assets of individuals.

2. California Test of Personality
Louis P. Thorpe, Willis W. Clark, Ernest W. Tiegs; CTB/McGraw-Hill.

Grades 4-8, 7-10, 9-14, adults. Assesses an individual's balance between personal and social adjustment. Two parts: personal

adjustment--measuring self reliance, sense of personal worth, sense of personal freedom, etc.; social adjustment--measuring social standards and skills, family and school relations, etc. Available in two forms (AA and BB) each with 180 items.

Item responses yield information regarding subject's tendencies in thinking, feeling, and acting thereby disclosing undesirable individual adjustment.

3. Edwards Personal Preference Schedule (EPPS)
Allen L. Edwards; The Psychological Corporation.

College students and adults. A format of 225 paired items requiring forced choice. Yields 15 scores. Designed primarily as an instrument for research and counseling purposes to provide quick and convenient measures of a number of relatively independent normal personality variables.

4. Edwards Personality Inventory (EPI)
Allen L. Edwards; Science Research Associates, Inc.

Grades 11-16 and adults. A lengthy inventory contained in four separate booklets and yielding 53 scores.

5. Eysenck Personality Inventory
H.L. Eysenck, Sybil B.G. Eysenck; Educational and Industrial Testing Service.

Grades 9-16 and adults. Intended to assess an individual's behavioral personality. A 57 item inventory with two scales: E-extraversion/introversion--representing the continuum of outgoing, uninhibited sociability of the individual; N-neuroticism/stability--representing the continuum of overreactive, emotional behavior.

Useful in counseling as a supplement in a testing battery. Clinical and experimental uses also available.

6. Junior Eysenck Personality Inventory
Sybil B.G. Eysenck; Science Research Associates, Inc.

Grades 4-8, ages 7-16. A 60 item inventory intended at the present time for use in clinical situations. Designed to measure neuroticism-stability, extraversion-introversion in children. Also contains a lie scale to detect faking.

7. Gordon Personal Inventory
Gordon Personal Profile
Leonard V. Gordon; Harcourt Brace Jovanovich.

Grades 9-16 and adults. These two forced-choice inventories are intended to compliment each other. The Profile covers ascendancy, responsibility, emotional stability, sociability. The inventory covers cautiousness, original thinking, personal relations, vigor.

8. Guilford-Zimmerman Temperment Survey (GZTS)
J.P. Guilford, Wayne S. Zimmerman; Sheridan Psychological Services, Inc.

Grades 12-16 and adults. Provides scores appraising ten clusters: general activity, restraint, ascendance, sociability, emotional stability, objectivity, friendliness, thoughtfulness, personal relations, masculinity.

9. Kuder Preference Record--Personal, Form A
G.F. Kuder; Science Research Associates, Inc.

Grades 9-16 and adults. Assesses personal preferences which contribute to job satisfaction. Consists of 168 forced-choice triads of activities to each of which the individual indicates most preference and least preference. Covers five kinds of activities: group activities, stable and familiar situations, working with ideas, avoiding conflict, directing others. Yields a score in each area and contains a verification scale.

Intends to reveal environments in which the subject prefers to work. Most useful in selection and placement of personnel and in vocational guidance when used as a supplement to an interest inventory.

10. Minnesota Counseling Inventory
Ralph F. Berdie, Wilbur F. Layton; Psychological Corporation.

High school students. Derived from elements in the MMPI and the Minnesota Personality Scale. A 355 item inventory yielding nine scores: family relationships, social relationships, emotional stability, conformity, adjustment to reality, mood, leadership, validity, questions.

11. Minnesota Multiphasic Personality Inventory (MMPI)
Starke R. Hathaway, J.C. McKinley; Psychological Corporation.

Ages 16 and over. Contains 550 self-descriptive items over a range from the subject's physical condition to moral and social beliefs. Provides a broad-based perspective of the individual's personality.

Designed to yield objective information regarding personality traits which are relative to the personal and social adjustment of individuals. May be useful as a device for screening students in need of further study and perhaps for counseling in relation to personality adjustment.

12. Sixteen Personality Factor Questionnaire (16PF)
Raymond B. Cattell, Herbert W. Eber; Western Psychological Services.

Ages 16 and over. A broad-based personality measure containing 187 multiple choice items. Factors include: reserved versus outgoing, less intelligent versus more intelligent, humble versus assertive, practical versus imaginative, etc.

Can be used by counselors who may select one or more of the scales for interpretation. The 16PF may be broken down into four less specific subscales: anxiety, extraversion, alert poise, independence.

13. Study of Values
Gordon A. Allport, Philip E. Vernon, Gardner Lindzey; Houghton Mifflin Co.

College students and adults. Designed to isolate and assess six basic interests or motives in personality: theoretical, economic, social, political, and religious. Yields six scores showing the individual's position in these six value areas.

MISCELLANEOUS

A. Special Vocational Aptitude Tests

1. Philadelphia Jewish Employment and Vocational Service Work Sample System (JEVS)
Vocational Research Institute, Jewish Employment and Vocational Service. Sponsored by U.S. Department of Labor.

This was originally designed for the disadvantaged but is now being adapted for the disabled. JEVS System is a procedure for client evaluation based on ten of the DOT Worker Trait Groups. It emphasizes the accurate observation and recording of work behaviors.

2. The TOWER System
ICD Rehabilitation and Research Center. Sponsored by the Vocational Rehabilitation Administration.

Designed for the physically and emotionally disabled. The TOWER System uses a realistic job setting to thoroughly evaluate clients for a rather narrow group of jobs. The system has been used for many years to place and train handicapped people.

3. Wide Range Employment Sample Test (WREST)
Guidance Associates of Delaware, Inc.

The WREST consists of ten, short, low-level tasks apparently designed to assess mainly the manipulation and dexterity abilities of the client. It seems most useful in assessing new clients for assignment to suitable work projects within a sheltered workshop.

B. Other Measures

1. Minnesota Importance Questionnaire (MIQ)
Weiss, Hendel, Gay, Davis, Lofquist; University of Minnesota: Industrial Relations Center.

Appears appropriate for juniors in high school and above. A 210 item pair--comparison instrument designed to measure 20 vocationally relevant need dimensions.

2. Orientation of Career Concept Series (OCC)
Barbara Fulton, Robert Tolsma; Evaluative Research Associates.

Grades k-12. Ten OCC subtests were designed to provide indices of performance against a theoretical model in which career awareness skills should be mastered by the ninth grade. The primary purpose of the OCC is to provide teachers or other school personnel with information pertaining to student achievement in career awareness. Can be used in assessing the effectiveness of career education programs.